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EXAMINER

WU, JINGGE

ART UNIT PAPER NUMBER

2623

DATE MAILED: 07/21/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/484,540

Applicant(s)

SAWADA, KENICHI

Examiner

Jingge Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 26-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20, 26-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 120 and/or 121.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- ☐ Interview Summary (PTO-413) Paper No(s) _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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Response to Amendment

1. Applicants' response to the last Office Action, filed , 2002 has been entered and made of record.
2. Applicants' amendment has required new grounds of rejection. New grounds rejection are therefore presented in the Office Action.

Remarks

3. Applicant's arguments with respect to claims 11-20 have been fully considered, but they are not persuasive.

a. Applicant argues that Suzuki does not teach modifying the edge area and only detecting the edge area.

Examiner disagrees. In fact, Suzuki expressly mentions that image correction (modifying) means for determining the edge quantity and calculating a black/color edge degree and converting the color difference or chroma signals in according with the calculated edge degree (col. 4 lines 59-67 and col. 15 lines 16-26) and correcting the edge by increasing and decreasing the density of the image data of the edge data (col. 11-col. 12).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-2, 7-12, 17-20, 26-27, and 31-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5361147 to Katayama et al. (a reference of record) in view of US 5742410 to Suzuki (a reference of record).

As to claim 1, Katayama discloses a image processing apparatus for processing image data, the apparatus comprising:

an edge detecting portion for detecting an edge area in the image in accordance with the image data (col. 2 lines 25-65, col. 20, lines 9-39, col. 27 lines 31-32);

an edge enlarging portion for enlarging the edge data detected by the edge detection portion (col. 2, lines 63-66, col. 27, lines 39-41); and

a density correction portion for increasing or decreasing the density value of the image data of the edge data enlarged by the edge enlarging portion (col. 22, lines 47-61, col. 27 lines 59-63, note that replacing a color "with a value which frequently appears", average or median value constitutes increase or decrease the density value of the image data).

Katayama does not explicitly mention increasing at least a density of the black component in the image data includes color component and black component.

Suzuki, in an analogous environment, discloses increasing at least a density of the black component in the image data includes color component and black component (col. 4 line 41-col. 5 line 50, col. 12 lines 5-65).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scheme of Suzuki in the method of Katayama in order to accurately enlarge and blacken the edge area for better color correction (Suzuki, col. 4).

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As to claim 2, Katayama further discloses the edge detection portion uses a first order differential filter to determine the edge upon a predetermined threshold (col. 20 lines 10-46).

As to claim 3, Suzuki further discloses

As to claim 7, Katayama further discloses the edge enlarging portion enlarges the edge area but does not enlarge the outside of the edge (col. 27, lines 39-41).

As to claim 8, Katayama further discloses using luminance (lightness) component to detect edge area (col. 14, lines 1-47, col. 20, lines 10-34).

As to claim 9 and 10, Katayama further discloses using average or median density value to correct the edge ((col. 22, lines 47-61, col. 27 lines 59-63, note that Katayama utilizes replacing a color "with a value which frequently appears", average or median value).

As to claims 26-27 and 31-34, the claims are the corresponding method claims to claims 1-2 and 7-10 respectively. The discussion are addressed with regard to claims 1-2 and 7-10.

As to claim 11, Katayama discloses all limitations except modifying the edge area according to the lightness information.

Suzuki, in an analogous environment, discloses a edge quantity detection circuit to detect the edge quantity (the edge area) according to the lightness values (col. 13, line 41-col. 15 line 26) , modifying the density portion in according with the lightness information (col. 4 line 41-col. 5 line 50) and increasing or decreasing the density of the edge area modified by the modifying portion (col. 4 line 41-col. 5 line 50, col. 11-15).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scheme of Suzuki in the method of Katayama in order to accurately correct the edge area for better color correction.

As to claims 12, 17-20, the discussions are addressed with regard to claim 2, 7-10.

1. Claims 4-6, 14-16, and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama and Suzuki, further in view of US 5430557 to Tamura et al. (a reference of record)

As to claims 4-5, Katayama does not explicitly mention controlling the enlarging degree.

Tamura, in an analogous environment, discloses a edge width controller for control the width of the edge, i.e., controlling the enlarging degree according to the controller responding to the kind of image (Fig. 5 element 44Y, col. 8 line 55-64, col. 12 lines 57-68).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scheme of Tamura in the method of Katayama in order to accurately enlarge the edge area for better color correction.

As to claim 6, Katayama further discloses the image data is a monochromatic (black/white) or other kind is color image data (col. 14).

As to claims 28-30, the claims are the corresponding method claims to claims 4-6 respectively. The discussion are addressed with regard to claims 4-6.

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2. Claims 3, 13 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayama and Suzuki, further in view of US 5357353 to Hirata (a reference of record).

As to claim 3, Katayama does not explicitly mention increasing a density of black components and decreasing that of color components.

Hirota, in an analogous environment, discloses increasing a density of black components and decreasing that of color components in the black edge area (abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the scheme of Hirota in the method of Katayama in order to reduce the color deviation in the black character area (col. 1-col. 2).

As to claims 13 and 27, the claims are the corresponding method claims to claim 3 respectively. The discussion are addressed with regard to claim 3.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications should be directed to Jingge Wu whose telephone number is (703) 308-9588. He can normally be reached Monday through Thursday from 8:00 am to 5:30 pm. The examiner can be also reached on second alternate Fridays.

Any inquiry of a general nature or relating to the status of this application should be directed to TC customer service whose telephone number is (703) 306-0377.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Amelia Au, can be reached at (703) 308-6604.

The Working Group Fax number is (703) 872-9314.

Jingge Wu

Primary Patent Examiner

